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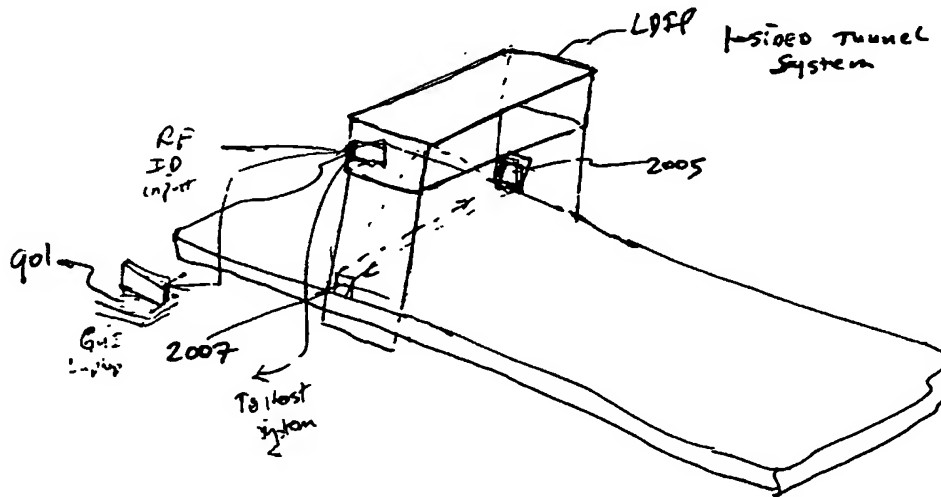
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(54) Title: UNITARY PACKAGE IDENTIFICATION AND DIMENSIONING SYSTEM EMPLOYING LADAR-BASED SCANNING METHODS



(57) Abstract: A fully automated package identification and measuring system (300), in which an omnidirectional holographic scanning tunnel (100) is used to read bar codes on packages entering the tunnel, while a package dimensioning subsystem (500, 600) is used to capture information about the package prior to entry into the tunnel. Mathematical models are created on a real-time basis for the geometry of the package and the position of the laser scanning beam used to read the bar code symbol thereon. The mathematical models are analyzed to determine if collected and queued package identification data is spatially and/or temporally correlated with package measurement data using vector-based ray-tracing methods, homogeneous transformations, and object-oriented decision logic so as to enable simultaneous tracking of multiple packages being transported through the scanning tunnel.

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